

5 What is claimed is:

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a1) 1. A method for automatically generating a service plan and associated workflow for  
a customer using a computer based network comprising the steps of:

creating a plurality of structured sentences for each of a plurality of identified  
customer needs in an electronic storage area, said plurality of structured sentences  
10 including structured sentences for services, each structured sentence for service  
identifying a needed service corresponding to one of the identified customer needs; and  
creating an electronic workflow capable of assisting completion of each needed  
service.

15 2. A method according to claim 1 wherein said step of creating an electronic  
workflow creates a workflow process instance for each needed service, such that there  
exists a workflow process instance associated with each structured sentence for service.

Sub B1 3. A method according to claim 2 wherein said plurality of structured sentences have  
20 a subject and a plurality of attributes contained therein.

4. A method according to claim 3 wherein certain of the attributes associated with  
the structured sentences for services contain a selected attribute value chosen from among  
a group of possible attribute values.

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5. A method according to claim 4 wherein certain ones of said workflow process  
instances have at least one decision step, task firing condition or routing rules that creates

5 a plurality of possible sequences of tasks that are invoked as part of the execution of said workflow process instances.

6. A method according to claim 5 further including the step of modifying at least one of the structured sentence attributes, which modification also causes a change to the  
10 sequence of tasks invoked within at least one of the workflow process instances.

7. A method according to claim 5 wherein selecting a different one of the possible attributes from among the group of possible attributes will result in the selection of a different one of the plurality of possible routes with respect to an associated decision  
15 step, task firing condition or routing rule.

8. A method according to claim 3 further including the step of electronically inputting answers to questions, and wherein the electronically input answers to questions also causes a change to the sequence of tasks invoked within at least one of the workflow  
20 process instances.

9. A method according to claim 8 wherein the step of electronically inputting answers to questions is performed by the customer.

25 10. A method according to claim 9 wherein the step of electronically inputting answers includes the steps of the customer remotely answering questions and transmitting the questions for inputting via the Internet.

11. A method according to claim 3 wherein certain ones of said workflow process instances have at least one decision step, task firing condition or routing rule that creates a plurality of possible routes contained therein, and further including the step of creating or modifying at least one of the workflow relevant data items, which modification also causes a change to the sequence of tasks invoked within at least one of the workflow process instances.

12. A method according to claim 2 wherein certain ones of said plurality of workflow process instances have workflow relevant data contained therein.

13. A method according to claim 12 further including the step of electronically inputting answers to questions, and wherein the electronically input answers to questions are used to create or modify workflow relevant data for certain ones of the workflow process instances.

14. A method according to claim 5 wherein the step of executing a workflow process instance further includes the step of performing a query that creates or modifies workflow relevant data using query metadata that maps the response options in a question or structured sentence data item to the response options in at least one other question or structured sentence data item, thereby creating a single data value used in a decision step, task firing condition or routing rule as part of the execution of said workflow process instance.

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15. A method according to claim 1, wherein the plan is a care plan, the customer is a patient, and the plurality of identified customer needs are health related problems to be addressed as part of the patient's care.

10 16. A method according to claim 15, wherein the step of creating a plurality of structured sentences is created by ~~an interdisciplinary team of clinicians.~~

17. A method according to claim 1 wherein the step of creating the electronic workflow includes creating an alert that will signify that an action needs to be taken.

18. A method according to claim 1 further including the steps of automatically generating a translation of the service plan and transmitting the translation of the service plan to the customer.

20 19. A method according to claim 18 further including the step of revising the automatically generated translation prior to the step of transmitting.

20. A method according to claim 18 wherein the step of transmitting transmits the translation to a remote computer associated with the customer.

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5 21. A method according to claim 1 further including the step of creating other structured sentences, said other structured sentences including structured sentences for a goal, a fact, a protocol, and a finding.

10 22. A method according to claim 1 further including the step of initiating the workflow.

23. A method according to claim 22 further including updating the service plan as workflow progresses.

15 24. A method according to claim 23 wherein updates are provided to a user of the care plan in one form and updates are provided to the customer in another form.

25. A method according to claim 24 wherein the one form is directed to a clinician and the other form is directed to a nonmedical person.

20 26. A method of automatically updating a predetermined plurality of existing service plans corresponding to a respective plurality of customers, each of said service plans including a plurality of structured sentences for each of a plurality of identified customer needs stored in an electronic storage area, said plurality of structured sentences including  
25 structured sentences for services, each structured sentence for service identifying a needed service corresponding to one of the identified customer needs and an electronic

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5 work flow capable of assisting completion of each needed service, the method comprising the steps of:

generating a report based upon data contained within each of the predetermined plurality of existing service plans or from data obtained from performing workflow associated with each of the predetermined plurality of existing service plans;

10 selecting a plurality of customers in need of one or more services

adding new structured sentences that are common to the predetermined plurality of existing care plans for the selected plurality of customers; and

adding workflow instances corresponding to the new structured sentences; and

causing initiation of the revised workflow instances for each revised service plan.

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27. A method according to claim 26 wherein said plurality of structured sentences have a subject and a plurality of attributes contained therein and wherein the step of adding new structured sentences includes the step of determining certain of said plurality of attributes for said new structured sentences based upon a characteristic that is common to each of said respective plurality of customers.

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28. A method according to claim 26 wherein said plurality of structured sentences have a subject and a plurality of attributes contained therein and wherein the step of adding new structured sentences includes the step of individually determining other ones of said plurality of attributes for said new structured sentences based upon another characteristic that is not common for each of said respective plurality of customers.

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5 29. A method according to claim 26 wherein the step of adding new structured sentences further includes the step of modifying certain existing structured sentences that are common to the predetermined plurality of existing service plans based upon the data; and wherein

10 the step of adding workflow instances includes the step of revising workflow instances associated with the modified certain existing structured sentences.

30 B1 A method for creating a service plan and associated workflow for a customer using a computer based network comprising the steps of:

providing electronically:

15 a plurality of structured sentence data items for each of a plurality of possible customer needs in an electronic storage area, said plurality of structured sentence data items including structured sentence data items for services, each structured sentence data item for service identifying a needed service corresponding to one of the possible customer needs;

20 an electronic work flow capable of assisting completion of each needed service; and

25 at least first and second templates, each of said at least first and second templates comprising a different set of certain ones of said plurality of structured sentence data items that each relate to different possible customer needs;

selecting at least a first template that relates to an identified customer need; and

5        ~~selecting those structured sentence data items within the first template that relate~~  
to the specific need of a particular customer, the step of selecting those structured  
sentence data items also causing the selection of workflow instances capable of assisting  
completion of each needed service.

10    31.    A method according to claim 30 wherein said plurality of structured sentence data  
items have a subject and a plurality of attributes contained therein and wherein the step of  
selecting those structured sentence data items includes the step of determining the values  
for a plurality of said attributes for corresponding structured sentences in a service plan  
for a customer.

15    32.    ~~A method according to claim 31 wherein the attribute values for certain ones of~~  
~~said plurality of attributes is selectable from a collection mutually exclusive choices.~~

20    33.    A method according to claim 31 wherein the attribute for certain ones of said  
plurality of attributes is a date.

34.    A method according to claim 31 wherein the attribute for certain ones of said  
plurality of attributes is a dosage.

25    35.    A method according to claim 30, wherein the service plan is a care plan, the  
customer is a patient, the plurality of possible customer needs are health related



5 problems, and the identified customer needs are those health related problems of the customer.

36. A method according to claim 30 further including the step of initiating the workflow, the step of initiating the workflow being caused by a user verifying the  
10 accuracy of the service plan.

37. A method according to claim 30 wherein during the step of providing a plurality of structured sentence data items is accomplished by a generic metadata supplier that transmits the data to a service provider user, and the service provider user performs the  
15 steps of selecting.

38. A method according to claim 37 further including the step of the service provider adding structured sentences to the service plan.

39. A method according to claim 37 further including the step of the service provider modifying certain ones of the selected structured sentences from the service plan.  
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40. A method of automatically generating the data needed to inform the process of updating structured sentence data items and associated workflow process specifications  
25 that are usable for the creation and execution of a service plan, said plurality of structured sentence data items including structured sentence data items for services, each structured sentence data items for service identifying a needed service corresponding to identified

5 customer needs, said associated workflow process specification capable of assisting  
completion of each needed service and including alerts that occur to signify that an action  
needs to be taken, the method comprising the steps of:

obtaining dismissed alerts associated with existing service plans that include  
correspondence of certain ones of said structured sentences, said dismissed alerts being  
10 designated as one of an appropriate alert and an inappropriate alert;

grouping related inappropriate alerts; and

determining a revised workflow and revised structured sentences based  
upon the grouping of inappropriate alerts.

41. An apparatus for automatically generating a service plan and associated workflow  
for a customer comprising:

means for creating in an electronic storage area a plurality of structured sentences  
for each of a plurality of identified customer needs for particular customers, said plurality  
of structured sentences including structured sentences for services, each structured  
20 sentence for service identifying a needed service corresponding to one of the identified  
customer needs; and

means for creating an electronic workflow capable of assisting completion of each  
needed service.

5 42. An apparatus according to claim 41 wherein said means for creating an electronic workflow creates a workflow process instance for each needed service, such that there exists a workflow process instance associated with each structured sentence for service.

43. An apparatus according to claim 42 wherein said plurality of structured sentences  
10 have a subject and a plurality of attributes contained therein

44. An apparatus according to claim 43 wherein certain of the attributes associated with the structured sentences for services contain a selected attribute value chosen from among a group of possible attribute values.

45. An apparatus according to claim 44 wherein certain ones of said workflow process instances have at least one decision step, task firing condition or routing rule that create a plurality of possible sequences of tasks that are invoked as part of the execution of said workflow process instances.

46. An apparatus according to claim 45 further including means for modifying at least one of the structured sentence attributes, which modification also causes a change to the sequence of tasks invoked within at least one of the workflow process instances.

47. An apparatus according to claim 45 wherein selecting a different one of the possible attributes from among the group of possible attributes will result in the selection

5 of a different one of the plurality of possible routes with respect to an associated decision step, task firing condition or routing rule.

48. An apparatus according to claim 43 further including means for electronically inputting answers to questions, and wherein the electronically input answers to questions  
10 also causes a change to the sequence of tasks invoked within at least one of the workflow process instances.

49. An apparatus according to claim 48 wherein the means for electronically inputting answers to questions is operated by the customer.

50. An apparatus according to claim 49 wherein the means for electronically inputting answers includes means for the customer to remotely answer questions and means for transmitting the questions for inputting via the Internet.

20 51. An apparatus according to claim 43 wherein certain ones of said workflow process instances have at least one decision step, task firing condition or routing rule that creates a plurality of possible routes contained therein, and further including the step of creating or modifying at least one of the workflow relevant data items, which modification also causes a change to the sequence of tasks invoked within at least one of  
25 the workflow process instances.

5 52. An apparatus according to claim 42 wherein certain ones of said plurality of workflow process instances have workflow relevant data contained therein.

53. An apparatus according to claim 52 further including means for electronically inputting answers to questions, and wherein the electronically input answers to questions  
10 are used to create or modify workflow relevant data for certain ones of the workflow process instances.

54. An apparatus according to claim 45 wherein the means for executing a workflow process instance further includes means for performing a query that creates or modifies workflow relevant data using query metadata that maps the response options in a question or structured sentence data item to the response options in at least one other question or structured sentence data item, thereby creating a single data value used in a decision step, task firing condition or routing rule as part of the execution of said workflow process  
instance.

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55. An apparatus according to claim 41, wherein the plan is a care plan, the customer is a patient, and the plurality of identified customer needs are health related problems to be addressed as part of the patient's care.

25 56. An apparatus according to claim 55, wherein the means for creating a plurality of structured sentences is created by an interdisciplinary team of clinicians.

5 57. An apparatus according to claim 41 wherein the means for creating the electronic workflow includes means for creating an alert that will signify that an action needs to be taken.

10 58. An apparatus according to claim 41 further including means for automatically generating a translation of the service plan and means for transmitting the translation of the service plan to the customer.

59. An apparatus according to claim 58 further including means for revising the automatically generated translation

60. An apparatus according to claim 58 wherein the means for transmitting transmits the translation to a remote computer associated with the customer.

20 61. An apparatus according to claim 41 further including means for creating other structured sentences, said other structured sentences including structured sentences for a goal, a fact, a protocol, and a finding.

62. An apparatus according to claim 41 further including means for initiating the workflow.

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63. An apparatus according to claim 62 further including means for updating the service plan as workflow progresses.

64. A method according to claim 63 wherein updates are provided to a user of the care plan in one form and updates are provided to the customer in another form.

65. An apparatus according to claim 64 wherein the one form is directed to a clinician and the other form is directed to a nonmedical person.

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